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EXAMINER

MANDALA, VICTOR A

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 11/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,434

Applicant(s)

BENETT ET AL.

Examiner

Victor A Mandala Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Applicant's Amendment's

1. The Applicant has amended the specification, which renders the objection to be non-obvious. The Applicant also amends the claims, which renders the 112 rejection to be non-obvious. The Applicant also argues that DiStefano et al. does not teach the claimed matter. Examiner has considered the Applicant's arguments and is persuaded to believe that the 103 rejection is non-obvious.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-13, 15, 17-31 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,700,214 Johnson.

2. Referring to claim 1, a connector chip for electrically connecting a conductive contact pin thereto, comprising: a non-conducting top layer, (Figure 7 & 8 #148); a non-conducting bottom layer, (Figure 7 & 8 #148); a conductive sheet, (Figure 7 & 8 #142), situated between the top layer and the bottom layer; and a passageway, (Figure 7 & 8 area where pin #42 occupies),

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extending at least partially through the chip, the passageway including means, (Figure 7 & 8 #48), for holding the pin in contact with the sheet, (Figure 7 & 8 #142), and for restraining the pin from translating with respect to the chip, (Col. 7 Lines 39-45).

3. Referring to claim 2, the electrical connector chip wherein: the holding means includes means for applying a frictional force against the pin, whereby a withdrawal of the pin from the passageway is resisted, (Col. 7 Lines 39-45).

4. Referring to claim 3, the electrical connector chip wherein: the pin has a lateral side; and the holding means includes means for applying a normal force against the side, whereby the frictional force is generated when a force is applied to the pin in a direction that would, in absence of the frictional force, withdraw the pin from the passageway, (Figure 1, Figure 7 & 8 #48, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

5. Referring to claim 4, the electrical connector chip wherein: the passageway includes an opening through the sheet; and the opening has a breadth that increases when the pin is inserted there through, (Figure 1, Figure 7 & 8 #48, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

6. Referring to claim 5, the electrical connector chip wherein: the passageway is further comprised a top hole, (Figure 7 & 8 #1), through the top layer, (Figure 7 & 8 #3), and a bottom hole, (Figure 7 & 8 #3), through the bottom layer, (Figure 7 & 8 #2); and the top hole, (Figure 7 & 8 #1), the bottom hole, (Figure 7 & 8 #2), and the opening are aligned, (As seen in Figure 7 & 8).

7. Referring to claim 6, the electrical connector chip wherein: the opening, when unstressed, has an unstressed minimum breadth; the pin cylindrical and has a diameter; the unstressed

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minimum breadth is smaller, (Figure 1), than the diameter of the pin; the opening has a periphery; and the sheet, (Figure 7 & 8 #142), is comprised of a flexible material, (As seen in Figure 7 & 8 when pin #146 is inserted), so that the periphery can deflect into the bottom hole, (Figure 7 & 8 #2), when the pin, (Figure 7 & 8 #146), is inserted into the opening, (Figure 1, Figure 7 & 8 #48, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

8. Referring to claim 7, the electrical connector chip wherein: the sheet, (Figure 7 & 8 #142), is composed of flexible material so that the breadth varies responsive to the contact pin, (As seen in Figure 7 & 8 when pin #146 is inserted), being inserted there through, (Figure 1, Figure 7 & 8 #48, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

9. Referring to claim 8, the electrical connector chip wherein: the breadth varies between an unstressed minimum breath and a stressed breath, with the stressed breath being greater than the unstressed minimum breath; the contact pin has a diameter greater than the unstressed minimum breadth; and the breadth increases to the stressed breadth in response to the contact pin being inserted into the opening, (Figure 1, Figure 7 & 8 #48, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

10. Referring to claim 9, the electrical connector chip wherein: the opening is formed by a plurality of fingers, (Figure 1 #50), extending centripetally from a section of the sheet that circumscribes the opening, (Col. 5 Lines 3-12).

11. Referring to claim 11, the electrical connector chip comprising means for preventing rotation of the pin with respect to the chip, (Figure 1 shows an array of slotted holes, which receive an array of pins. This array would lock the chip to the pins and not allow the any rotation to occur. The friction from the flower like structure in Figure 1 and as seen as #48 in

Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

12. Referring to claim 12, the electrical connector chip further comprising: a plurality of passageways through the chip; and a harness including a plurality of pins spatially arranged so that each of the pins can be simultaneously aligned with one of the passageways, respectively, whereby all of the pins can be simultaneously inserted into passageways, respectively, and the harness is prevented from translating or rotating relative to the chip by holding means when the contact pins are respectively inserted into the passageways, (Figure 1 shows an array of slotted holes, which receive an array of pins. This array would lock the chip to the pins and not allow the any rotation to occur. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

13. Referring to claim 13, the electrical connector chip wherein: each holding means is electrically isolated from the other holding means and is electrically connected to a respective chip element, (Figure 7 & 8 #48), whereby each chip element, (Figure 7 & 8 #48), is connected to a respective contact pin when the contact pins are respectively inserted into the passageways, (Figure 1 shows an array of slotted holes, which receive an array of pins. Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

14. Referring to claim 15, the connector chip for electrically connecting a conductive contact pin thereto, comprising: a non-conducting top layer, (Figure 7 & 8 #148); a non-conducting bottom layer, (Figure 7 & 8 #148); an electrical element, (Figure 7 & 8 #48); and a conductive sheet, (Figure 7 & 8 #142), situated between the top layer, (Figure 7 & 8 #148), and the bottom

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layer, (Figure 7 & 8 #148), and being electrically connected to the element, (Figure 7 & 8 #48); the top layer, (Figure 7 & 8 #148), having a top hole, (Figure 7 & 8 #148), there through, and the bottom layer, (Figure 7 & 8 #148), having a bottom hole, (Figure 7 & 8 #2), there through, with the top hole, (Figure 7 & 8 #1), and the bottom hole, (Figure 7 & 8 #2), being in alignment and comprising an aligned hole pair; the sheet, (Figure 7 & 8 #142), having an opening aligned with the aligned hole pair; and the opening including means for holding the pin in contact with the sheet, (Figure 7 & 8 #142), when the pin is inserted into the opening, whereby the pin is prevented from translating with respect to the chip and an electrical connection between the pin and the element is established and maintained, (Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

15. Referring to claim 17, the electrical connector chip comprising: a plurality of aligned hole pairs and openings; and a harness including a plurality of the pins spatially arranged so that each of the contact pins can be simultaneously aligned with one of the aligned hole pairs and openings, whereby each of the contact pins can be simultaneously inserted into one of the aligned hole pairs and openings, respectively, and the harness is held stationary relative to the chip by the holding means, (Figure 7 & 8 #48), when the pins are inserted, (Figure 1 shows an array of slotted holes, which receive an array of pins. This array would lock the chip to the pins and not allow the any rotation to occur. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

16. Referring to claim 18, the method for electrically connecting a chip and a conductive contact pin, comprising mechanically holding the pin in a passageway in the chip while

establishing and maintaining an electrical connection between the pin and an electrical element, (Figure 7 & 8 #48), embedded in the chip, (Figure 1 shows an array of slotted holes, which receive an array of pins. This array would lock the chip to the pins and not allow the any rotation to occur. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

17. Referring to claim 19, the connecting method wherein: mechanically holding the contact pin in the passageway is carried out by generating a frictional force acting on the pin, (Figure 1 shows an array of slotted holes, which receive an array of pins. This array would lock the chip to the pins and not allow the any rotation to occur. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

18. Referring to claim 20, the connecting method wherein: generating the frictional force is carried out by applying a normal force against the pin, (Figure 1 shows an array of slotted holes, which receive an array of pins. This array would lock the chip to the pins and not allow the any rotation to occur. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

19. Referring to claim 21, the connecting method additionally providing the chip with a flexible conductive sheet, (Figure 7 & 8 #142), electrically connected to the electrical element, (Figure 7 & 8 #48), and having an opening aligned with the passageway, wherein the electrical connection is maintained and the normal force is applied by inserting the pin into the opening

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and deforming the opening, (Figure 1 shows an array of slotted holes, which receive an array of pins. This array would lock the chip to the pins and not allow the any rotation to occur. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

20. Referring to claim 22, the connecting method comprising: providing a plurality of passageways and openings; and attaching a plurality of the pins to a rigid harness and spatially arranging the pins so that each of the pins can be simultaneously inserted into one of the passageways and the opening aligned therewith, (Figure 1 shows an array of slotted holes, which receive an array of pins. This array would lock the chip to the pins and not allow the any rotation to occur. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

21. Referring to claim 23, a connector of a chip of a type having passageway extending at least partially there through, for electrically connecting a conductive contact pin to the chip, the connector comprising: a conductive sheet, (Figure 7 & 8 #142), having a peripheral portion connected to the chip adjacent the passageway, and means, (Figure 7 & 8 #48), extending from the peripheral portion into the passageway for holding a pin in contact with the sheet, (Figure 7 & 8 #142), and for restraining the pin from translating with respect to the chip, (Figure 1 shows an array of slotted holes, which receive an array of pins. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

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22. Referring to claim 24, the electrical connector of a chip, wherein the holding means, (Figure 7 & 8 #48), includes means for applying a frictional force against the pin, whereby a withdrawal of the pin from the passageway is resisted, (Figure 1 shows an array of slotted holes, which receive an array of pins. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

23. Referring to claim 25, the electrical connector of a chip, wherein the pin has a lateral side; and the holding means includes means for applying a normal force against the side, whereby the frictional force is generated when a force is applied to the pin in a direction that would, in the absence of the frictional force, withdraw the pin from the passageway, (Figure 1 shows an array of slotted holes, which receive an array of pins. The friction from the flower like structure in Figure 1 and as seen as #48 in Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

24. Referring to claim 26, the electrical connector of a chip, wherein the holding means includes an opening through the sheet, (Figure 7 & 8 #142); and the opening has a breadth that increases when the pin is inserted therethrough, (Figure 1, Figure 7 & 8 #48, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

25. Referring to claim 27, the electrical connector of a chip, wherein the opening, when unstressed, has an unstressed minimum breadth, (Figure 1); the pin is cylindrical and has a diameter; the unstressed minimum breadth is smaller than the diameter of the pin, (Figure 7 & 8 #146); the opening has a periphery; and the sheet, (Figure 7 & 8 #142), is comprised of a flexible material, (As seen in Figure 7 & 8 when pin #146 is inserted), so that the periphery can deflect

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into the bottom hole, (Figure 7 & 8 #2), when the pin, (Figure 7 & 8 #146), is inserted into the opening, (Figure 1, Figure 7 & 8 #48, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

26. Referring to claim 28, the electrical connector of the chip, wherein the sheet, (Figure 7 & 8 #142), is comprised of a flexible material, (As seen in Figure 7 & 8 when pin #146 is inserted), so that the breadth varies responsive to the contact pin, (Figure 7 & 8 #146), being inserted therethrough, (Figure 1, Figure 7 & 8 #48, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

27. Referring to claim 29, the electrical connector of the chip, wherein the breadth varies between an unstressed minimum breath and a stressed breath, with the stressed breath being greater than the unstressed minimum breath; the contact pin has a diameter greater than that the unstressed minimum breadth; and the breadth increases to the stressed breadth in response to the contact pin being inserted into the opening, (Figure 1, Figure 7 & 8 #48, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

28. Referring to claim 30, the electrical connector chip wherein: the opening is formed by a plurality of fingers, (Figure 1 #50), extending centripetally from a section of the sheet that circumscribes the opening, (Col. 5 Lines 3-12).

29. Referring to claim 31, the electrical connector of the chip comprising means for preventing rotation of the pin with respect to the chip, (Figure 1 shows an array of slotted holes, which receive an array of pins. This array would lock the chip to the pins and not allow the any rotation to occur. The friction from the flower like structure in Figure 1 and as seen as #48 in

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Figures 7 & 8 would also not allow the pin to rotate, Col. 4 Lines 66-68, Col. 5 Lines 1-3, and Col. 7 Lines 39-45).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 14, 16, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over in view of U.S. Patent No. 4,700,214 Johnson.

30. Referring to claim 10, the electrical connector chip wherein: the top hole has a top hole diameter and the bottom hole has a bottom hole diameter; and the top hole diameter is smaller than the bottom hole diameter.

Note that the specification contains no disclosure of either the critical nature of the claimed dimensions or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

31. Referring to claim 14, the electrical connector chip wherein: the chip is from 0.5 to 2.0 millimeters thick; and the sheet is from 0.05 to 0.2 millimeters thick.

Note that the specification contains no disclosure of either the critical nature of the claimed dimensions or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

32. Referring to claim 16, the electrical connector chip wherein: the chip is from 0.5 to 2.0 millimeters thick; and the sheet is from 0.05 to 0.2 millimeters thick.

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Note that the specification contains no disclosure of either the critical nature of the claimed dimensions or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

33. Referring to claim 32, the electrical connector of the chip, wherein the sheet is from 0.05 to 0.2 millimeters thick.

Note that the specification contains no disclosure of either the critical nature of the claimed dimensions or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor A Mandala Jr. whose telephone number is (703) 308-6560. The examiner can normally be reached on Monday through Thursday from 8am till 6pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

VAMJ
November 13, 2002


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